

Amendments to the Claims:

This listing of claims will replace all previous version, and listings, of claims in this application.

Listing of Claims:

1. (Currently amended) A compound which is:

3-Amino-*N*-(3-nitrophenyl)-6-[4-(pyrrolidin-1-ylsulfonyl)phenyl]pyrazine-2-carboxamide;

3-Amino-6-[4-(pyrrolidin-1-ylsulfonyl)phenyl]-*N*-1*H*-tetrazol-5-ylpyrazine-2-carboxamide;

N-[3-(Acetylamino)phenyl]-3-amino-6-[4-[(4-methyl-1-piperazinyl)sulfonyl]phenyl]-2-pyrazinecarboxamide[;], or

3-Amino-*N*-[3-(aminosulfonyl)phenyl]-6-[4-[(4-methyl-1-piperazinyl)sulfonyl]phenyl]-2-pyrazinecarboxamide;

as a free base or a pharmaceutically acceptable salt, solvate or solvate of a salt thereof;

3-Amino-6-[4-({[(1*R*)-2-methoxy-1-methylethyl]amino}sulfonyl)phenyl]-*N*-pyridin-3-ylpyrazine-2-carboxamide hydrochloride;

3-Amino-6-[4-({[(1*S*)-2-methoxy-1-methylethyl]amino}sulfonyl)phenyl]-*N*-pyridin-3-ylpyrazine-2-carboxamide hydrochloride;

3-Amino-6-(4-({[(2-ethoxyethyl)amino}sulfonyl]phenyl)-*N*-pyridin-3-ylpyrazine-2-carboxamide hydrochloride;

3-Amino-*N*-(2-methoxyphenyl)-6-{4-[(4-methylpiperazin-1-yl)sulfonyl]phenyl}pyrazine-2-carboxamide hydrochloride;

3-Amino-*N*-(4-methoxyphenyl)-6-{4-[(4-methylpiperazin-1-yl)sulfonyl]phenyl}pyrazine-2-carboxamide hydrochloride;

3-Amino-*N*-[2-(aminocarbonyl)phenyl]-6-{4-[(4-methylpiperazin-1-yl)sulfonyl]phenyl}pyrazine-2-carboxamide hydrochloride;

3-Amino-*N*-[3-(aminocarbonyl)phenyl]-6-{4-[(4-methylpiperazin-1-yl)sulfonyl]phenyl}pyrazine-2-carboxamide hydrochloride;

3-Amino-*N*-(3-cyanophenyl)-6-{4-[(4-methylpiperazin-1-yl)sulfonyl]phenyl}pyrazine-2-carboxamide hydrochloride;

3-Amino-*N*-(2-bromophenyl)-6-{4-[(4-methylpiperazin-1-yl)sulfonyl]phenyl}pyrazine-2-carboxamide hydrochloride;

3-Amino-*N*-(3-bromophenyl)-6-{4-[(4-methylpiperazin-1-yl)sulfonyl]phenyl}pyrazine-2-carboxamide hydrochloride;

3-Amino-6-{4-[(4-methylpiperazin-1-yl)sulfonyl]phenyl}-*N*-1*H*-pyrazol-3-ylpyrazine-2-carboxamide hydrochloride;

3-Amino-*N*-[4-(aminocarbonyl)-1*H*-pyrazol-3-yl]-6-{4-[(4-methylpiperazin-1-yl)sulfonyl]phenyl}pyrazine-2-carboxamide hydrochloride;

3-Amino-*N*-1*H*-imidazol-2-yl-6-{4-[(4-methylpiperazin-1-yl)sulfonyl]phenyl}pyrazine-2-carboxamide hydrochloride;

3-amino-6-[3-fluoro-4-[2-(4-morpholinyl)ethoxy]phenyl]-*N*-3-pyridinyl-2-pyrazinecarboxamide hydrochloride;

3-Amino-6-[4-[[[1-ethyl-3-piperidinyl]amino]sulfonyl]phenyl]-*N*-3-pyridinyl-2-pyrazinecarboxamide hydrochloride;

3-Amino-6-[4-[[bis(2-methoxyethyl)amino]sulfonyl]phenyl]-*N*-3-pyridinyl-2-pyrazinecarboxamide hydrochloride;

3-Amino-6-[4-[[[3-methylbutyl]amino]sulfonyl]phenyl]-*N*-3-pyridinyl-2-pyrazinecarboxamide hydrochloride;

3-Amino-6-[4-[[[(1*S*)-2-methoxy-1-methylethyl]amino]carbonyl]phenyl]-*N*-3-pyridinyl-2-pyrazinecarboxamide hydrochloride;

3-Amino-*N*-3-pyridinyl-6-[4-[[[2-(1-pyrrolidinyl)ethyl]amino]carbonyl]phenyl]-2-pyrazinecarboxamide hydrochloride;

3-Amino-*N*-(3-methoxyphenyl)-6-[4-[(4-methyl-1-piperazinyl)sulfonyl]phenyl]-2-pyrazinecarboxamide hydrochloride;

N-(3-Acetylphenyl)-3-amino-6-[4-[(4-methyl-1-piperazinyl)sulfonyl]phenyl]-2-pyrazinecarboxamide hydrochloride[;], or

3-Amino-6-[4-[(4-methyl-1-piperazinyl)sulfonyl]phenyl]-*N*-[3-(trifluoromethyl)phenyl]-2-pyrazinecarboxamide hydrochloride;

or as a free base or an alternative pharmaceutically acceptable salt, solvate or solvate of a salt thereof.

2. (Currently amended) A pharmaceutical formulation comprising as active ingredient a therapeutically effective amount of the compound according to claims 1 or 27 in association with pharmaceutically acceptable carriers or diluents.

Claims 3 to 10. (Cancelled)

11. (Currently amended) A method of prevention and/or treatment of conditions associated with glycogen synthase kinase-3, comprising ~~administering~~ administering to a mammal, including man in need of such prevention and/or treatment, a therapeutically effective amount of a compound defined in claims 1 or 27.

12. (Currently amended) A method of prevention and/or treatment of dementia, Alzheimer's Disease, Parkinson's Disease, Frontotemporal dementia Parkinson's Type, Parkinson dementia complex of Guam, HIV dementia, diseases with associated neurofibrillar tangle pathologies and dementia pugilistica, comprising ~~administering~~ administering to a mammal, including man in need of such prevention and/or treatment, a therapeutically effective amount of a compound defined in claims 1 or 27.

13. The method according to claim 12, wherein the prevention and/or treatment is Alzheimer's Disease.

14. (Currently amended) A method of prevention and/or treatment of amyotrophic lateral sclerosis, corticobasal degeneration, Down syndrome, Huntington's Disease, ~~postencephalitic~~ postencephalitic parkinsonism, progressive supranuclear palsy, Pick's Disease, Niemann-Pick's Disease, stroke, head trauma and other chronic neurodegenerative diseases, Bipolar Disease, affective disorders, depression, schizophrenia, cognitive disorders, hair loss, contraceptive medication, Type I and Type II diabetes, diabetic neuropathy and diabetes related disorders

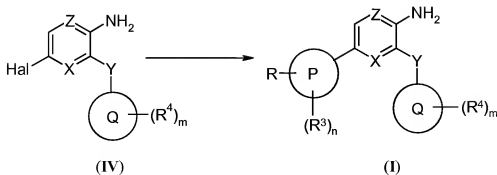
comprising ~~administering~~ administering to a mammal, including man in need of such prevention and/or treatment, a therapeutically effective amount of a compound defined in claims 1 or 27.

15. The method according to claim 14, wherein the prevention and/or treatment is Type I and Type II diabetes, diabetic neuropathy and diabetes related disorders.

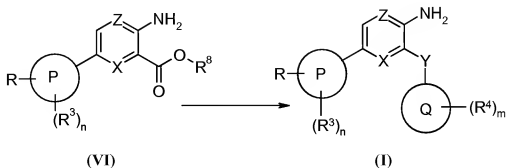
16. (Currently amended) A method of prevention and/or treatment of predemented states, Mild Cognitive Impairment, Age-Associated Memory Impairment, Age-Related Cognitive Decline, Cognitive Impairment No Dementia, mild cognitive decline, mild neurocognitive decline, Late-Life Forgetfulness, memory impairment and cognitive impairment, vascular dementia, dementia with Lewy bodies, Frontotemporal dementia and androgenetic alopecia, comprising ~~administering~~ administering to a mammal, including man in need of such prevention and/or treatment, a therapeutically effective amount of a compound defined in claims 1 or 27.

17. (Original) A process for the preparation of a compound defined in claim 1 which falls under the general formula I, wherein Y, X, Z, P, Q, R, R¹, R², R³, R⁴, R⁵, R⁶, R⁷, A, m and n are defined as in formula I, comprising of:

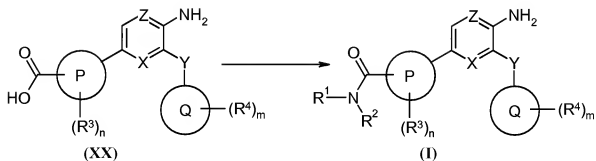
A) de-halogen coupling of a compound of formula IV where Hal is halogen with a ~~appropriate~~ appropriate aryl species to give a compound of formula I:



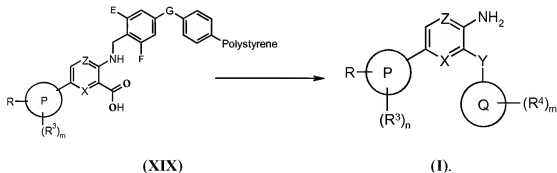
B) amidation of a compound of formula **VI** wherein R^8 is C_{1-6} alkyl or hydrogen with the appropriate amine:



C) amidation of a compound of formula **XX**, with the appropriate amine to give a compound of formula **I**:



D) amidation of a compound of formula **XIX** with the appropriate amine and treating with coupling reagents:



18. (Original) A compound which is 3-Amino-6-bromo-*N*-pyridin-3-ylpyrazine-2-carboxamide as a free base or a salt, solvate or solvate of a salt thereof.

19. (Currently amended) A compound which is:

4-Bromo-*N*-[(1*R*)-2-hydroxy-1-methylethyl]benzenesulfonamide;

4-Bromo-*N*-[(1*R*)-2-methoxy-1-methylethyl]benzenesulfonamide;

4-Bromo-*N*-[(1*S*)-2-methoxy-1-methylethyl]benzenesulfonamide;

4-Bromo-*N*-(1-ethyl-3-piperidiny)benzenesulfonamide;

4-Bromo-*N,N*-bis(2-methoxyethyl)benzenesulfonamide;

4-Bromo-*N*-(3-methylbutyl)-benzenesulfonamide[[:];], or

4-Bromo-*N*-(2-ethoxyethyl)benzenesulfonamide;

as a free base or a salt, solvate or solvate of a salt thereof.

20. (Currently amended) A compound which is:

Methyl 3-amino-6-[4-(pyrrolidin-1-ylsulfonyl)phenyl]pyrazine-2-carboxylate;

Methyl 3-amino-6-[4-[(4-methyl-1-piperazinyl)sulfonyl]phenyl]pyrazine-2-carboxylate[[:];], or

3-Amino-6-[4-[(4-methyl-1-piperazinyl)sulfonyl]phenyl]-2-pyrazinecarboxylic acid;

as a free base or a salt, solvate or solvate of a salt thereof.

21. (Currently amended) A compound which is:

4-[(4-Methylpiperazin-1-yl)sulfonyl]phenylboronic acid[[:];], or

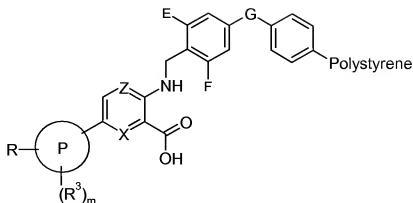
4-(Pyrrolidin-1-ylsulfonyl)phenylboronic acid;

as a free base or a salt, solvate or solvate of a salt thereof.

22. (Original) A compound which is:

4-[2-(4-Bromo-2-fluorophenoxy)ethyl]morpholine as a free base or a salt, solvate or solvate of a salt thereof.

23. (Original) A compound which is:



wherein R, R³, P, X, Z, and m are as defined above, and wherein E and F are a methoxy group or hydrogen and G is a spacer chain containing atoms selected from oxygen and carbon as a free base or a salt, solvate or solvate of a salt thereof.

24. (Currently amended) A compound which is:

3-{[2,6-Dimethoxy-4-(2-phenylethoxy)benzyl]amino}-6-[4-(pyrrolidin-1-ylsulfonyl)phenyl]pyrazine-2-carboxylic acid polystyrene[[:]], or

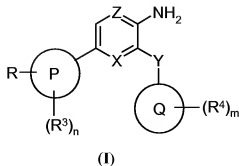
Methyl 3-{[2,6-dimethoxy-4-(2-phenylethoxy)benzyl]amino}-6-[4-(pyrrolidin-1-ylsulfonyl)phenyl]pyrazine-2-carboxylate polystyrene;

as a free base or a salt, solvate or solvate of a salt thereof.

25. (Original) A compound which is 4-{5-Amino-6-[(pyridin-3-ylamino)carbonyl]pyrazin-2-yl}benzoic acid as a free base or a salt, solvate or solvate of a salt thereof.

26. (Cancelled)

27. (New) A compound of the generic formula I:



wherein:

Z is N;

Y is CONR⁵;

X is N;

P is phenyl;

Q is phenyl;

R is selected from C₀₋₆alkyl(SO₂)NR¹R², C₀₋₆alkylCONR¹R² and OC₁₋₆alkylNR¹R²;

R¹ and R² are independently selected from hydrogen, C₁₋₆alkyl, C₁₋₆alkylNR⁶R⁷, C₁₋₆alkylOR⁶ and a 5 or 6 membered heterocyclic ring containing one or more heteroatoms independently selected from N, O, or S and wherein said C₁₋₆alkyl or heterocyclic ring may be optionally substituted by A;

R¹ and R² may together form a substituted 5 or 6 membered heterocyclic ring containing one or more heteroatoms independently selected from N, O, or S and said heterocyclic ring may be optionally substituted by A;

R³ and R⁴ is independently selected from halo, nitro, trifluoromethyl, C₀₋₆alkylCN, C₀₋₆alkylOR⁶, C₀₋₆alkylCONR⁶R⁷, C₀₋₆alkylNR⁶(CO)R⁷, C₀₋₆alkylCOR⁶, C₀₋₆alkyl(SO₂)NR⁶R⁷;

m is 0 or 1;

n is 0 or 1;

R⁵ is hydrogen;

R⁶ and R⁷ are independently selected from hydrogen and C₁₋₆alkyl;

R⁶ and R⁷ may together form a substituted 5 or 6 membered heterocyclic ring containing one or more heteroatoms independently selected from N, O, or S one or more heteroatoms independently selected from N, O or S and said heterocyclic ring may be optionally substituted by A;

A is C₁₋₆alkyl;

as a free base or a pharmaceutically acceptable salt, solvate or solvate of a salt thereof.